REMARKS

Claims 1-17 are now in this application. Claims 1-11 are rejected. Claims 1 and 8 are objected to. Claims 1-9 and 11 are amended herein to clarify the invention, to broaden language as deemed appropriate and to address matters of form unrelated to substantive patentability issues. New claims 12-17 are added.

Applicants herein traverse and respectfully request reconsideration of the rejection of the claims and objection cited in the above-referenced Office Action.

The drawings are objected to by the Examiner as failing to comply with 37 CFR 1.84(p)(5). The attached sheet of drawings includes changes to Fig. 4, and adds identification of reference designators 22, 23, 225 and 225e, to address the drawing objections in the Office Action. This sheet replaces the original sheet including Fig. 4. With respect to the intermediate guiding portion 27, the correct reference designator is 227. The specification is amended to correct this typographical error, and brings same into conformance with what is shown in the figures. Withdrawal of the objection to the drawings is earnestly solicited. The applicants elect to delay filing corrected formal drawings until subsequent to the receipt of a Notice of Allowability as per PTOL-37 and CFR §1.85(c).

The Office Action indicates that a substitute specification in proper idiomatic English is required. The Abstract is also objected to for exceeding 150 words. Applicants submit herewith a substitute specification and abstract wherein

amendments are effected to place the text thereof into proper English in accordance with 37 CFR 1.125(c) and makes the necessary changes to the abstract. Also accompanying this amendment is a reproduction of the original specification and abstract with markings indicating the amendments effected in the substitute specification and abstract in accordance with MPEP §608.01(q) and 37 CFR 1.125(b). No new matter is added. Entry of the substitute specification and abstract is respectfully requested.

Claims 1 and 8 are objected to based upon noted informalities. The claims are amended to address these informalities. Withdrawal of the objection is respectfully requested.

Claims 1-11 are rejected as indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter of the invention. The Office Action cites various informalities in the claim language including awkward wording and lack of antecedent bases. Claims 1-9 and 11 are amended to clarify the claimed invention and to place the claims into conformance with U.S. claiming practice. The amendments were made with consideration of the various informalities noted in the Office Action. It is respectfully submitted that the amendments remove or correct the informalities noted in the Office Action. Therefore, reconsideration of the rejection of claims 1-11 and their allowance are earnestly requested.

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Claims 1-6 and 8-11 are rejected as obvious over Faith (US 5,445,138) in view of Kelly et al. (US 5,667,217) under 35 U.S.C. §103(a). The applicants herein respectfully traverse this rejection.

It is respectfully submitted that a *prima facie* case of obviousness could not be established in rejection of amended claims 1-6 and 8-11. "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP §706.02(j) "Contents of a 35 U.S.C. §103 Rejection".

Claim 1, as amended, recites in pertinent part: "display units for displaying values corresponding to the targets by codes, each of the display units being provided adjacent to and in correspondence with a respective one of the targets" to be aimed at. Independent claim 9 also contains a like recitation.

Applicants respectfully submit that neither Faith nor Kelly teaches or suggests plural display units each of which corresponds to a respective one of targets

to be aimed at, and wherein each of the display units shows a value of its corresponding target.

Thus, the combination of prior art references fails to teach or suggest all the claim limitations as properly required for establishing a *prima facie* case of obviousness. Therefore, reconsideration of the rejections of claims 1-6 and 8-11 and their allowance are respectfully requested.

Applicants note that claim 7 has not been substantively rejected based upon prior art. Therefore, while the Office Action does not provide express indication, the claim is believed to contain allowable subject matter. Claim 7 has been rewritten in independent form and is amended to overcome the rejection of the claim under 35 U.S.C. §112, second paragraph. It is therefore now believed to be in condition for allowance, and notice to that effect is earnestly solicited.

Claims 12-17 are added and are submitted as patentable over the cited art of record. Independent claim 12 recites subject matter directed to jackpot setting means for setting, *inter alia*, a jackpot appearing time during which a jackpot appears with the set jackpot value at one of the display units, which, among other features recited therein, is not believed disclosed in the cited art in the manner as claimed. Dependent claims 13-17 are submitted as patentable based on the subject matter cited therein in addition to the subject matter of claim 12.

One (1) further independent claim in excess of three is added. Accordingly, please charge the fee of $86 to Deposit Account No. 10-1250.

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Applicants respectfully request a one (1) month extension of time for responding to the Office Action. Please charge the fee of $110 for the extension of time to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

Respectfully submitted,
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enc: Replacement sheet including Fig. 4.

Shooting Game Machine and Shooting Game System

SHOOTING GAME MACHINE AND SHOOTING GAME SYSTEM

BACKGROUND OF THE INVENTION

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5   The present invention relates to a shooting game machine which is

installed in a position facing a plurality of targets, that causes a game medium,

such as a token, to fly by springing it out be propelled while being aimed at any

desired one of the plurality of targets, and gives a game player a valuable

corresponding to a score set for the hit target, and to a shooting game system.

10   BACKGROUND OF THE INVENTION AND RELATED ART STATEMENT

There has been known A medal game machine is known which is installed

in a position facing a plurality of targets, that causes a token to spring out be

propelled while being aimed at any desired one of the plurality of targets, and

which gives a game player a credit corresponding to a score set for the hit target.

15   Some machines of this type are designed for a single player, and the other others

are designed for multiple players. In the case of the machines for a single player,

a score is cumulatively displayed in a jackpot upon insertion of a token, or a part

of scores usually obtained upon hitting a target is accumulatively displayed

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therein as contribution points. The game player's desire to improve his skill is stimulated by enabling him to gain the accumulated points when a special spot set at one of the targets is hit thereafter. In the case of the machines for multiple players, the respective contribution points from a plurality of machines are

5   centrally accumulated as jackpot points and, when a special spot is hit in any of these plurality of machines, all accumulated points are paid off to a player playing with this machine.

In the conventional medal game machines with a jackpot, players generally aim at the special spot for which the jackpot is set, and the meaning of

10   existence of the other targets, i.e., targets for which low scores are set, is relatively weak. The players tend to challenge the special spot, whereas they tend to unnecessarily lose tokens since the special spot, i.e., the jackpot spot, is set at a position difficult to aim at[[(hit)]], and to therefore, hit. Further Furthermore, although the game player's desire to shoot can be incited to gain the accumulated

15   points when sufficient points are accommodated for the jackpot, the jackpot has [[a]] little attraction, and the game player's interest is low while sufficient points have not yet been accumulated. Thus, the game player's interest in the game is extremely markedly different depending on whether sufficient points have been accumulated or not.

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SUMMARY OF THE INVENTION

In view of the above problems residing in the prior art, an object of the present invention is to provide a shooting game machine in which a specified jackpot value is set and a target corresponding to a jackpot is changed among a

5   plurality of targets over time, thereby causing a game player's interest in a game to differ to a lesser degree, thereby [[and]] stabilizing his desire to shoot.

In order to achieve the above object, a shooting game machine according to the present invention, comprises[[:]] a target unit including a plurality of targets, a shooting unit provided at a position facing the target unit and operable

10   by a game player to cause a game medium to fly while selectively aiming at any of the plurality of targets, display units provided in correspondence with the respective targets for displaying values corresponding to the targets by codes, value setting means for setting the values to be displayed on the display units, jackpot setting means for setting a jackpot value on one of the display units

15   selectively changed [[in]] over time direction, hit detecting means for detecting the hit of the game medium at the target, and a dispenser for paying out a material corresponding to the value displayed on the display unit corresponding to the hit target when the game medium hits one target.

With this construction, the game player can cause the game medium to

20   [[fly]] be propelled by operating the discharging unit while aiming at a specific

one of the plurality of targets arranged in front. When the aimed target or an

other target is hit by the game medium, the value, [[e.g.]] for example, a specified

score, displayed in correspondence with the hit target, can be obtained, and the

corresponding valued material is paid out from the dispenser. When the target

5   corresponding to the jackpot is hit, the jackpot value, [[e.g.]] for example, a

special high score, can [[an]] be obtained, thereby making the game player's

interest in a game vary only to a small degree, thereby and stably urging the game

player to have a desire to shoot better.

These and other objects, features and advantages of the present invention

10   will become more apparent upon a reading of the following detailed description

and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing the external configuration of a

shooting game machine according to one embodiment of the invention,

15   FIG. 2 is a side view of the shooting game machine of FIG. 1,

FIG. 3 is a front view of the shooting game machine of FIG. 1,

FIG. 4 is a detailed construction diagram of a token discharging device,

FIGS. 5A to 5D are diagrams showing four detectable angular positions of

a detection piece,

FIG. 6 is a die view showing a structure of a target,

FIGS. 7A, 7B, and 7C are a front view, a side view, and a perspective

view showing the construction of a display unit and a presentation display unit,

FIG. 8 is a block construction diagram of the shooting game machine,

5   FIG. 9 is a diagram showing a summary of contents of various processings

performed by a main control unit,

FIG. 10 is a flow chart showing a procedure of "Game Processing",

FIG. 11 is a flow chart showing a procedure of "Token Discharge

Processing",

10   FIG. 12 is a flow chart showing a procedure of "Jackpot Appearing

Position/Time Determining Processing",

FIGS. 13 and 14 is a flow chart showing a procedure of "Target

Processing", and

FIG. 15 is a flow chart showing a procedure of "Ticket Dispensing".

15   DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS OF THE

INVENTION

FIG. 1 is a perspective view showing the external configuration of a

shooting game machine according to one embodiment of the invention, FIG. 2 is a

side view of the shooting game machine, and FIG. 3 is a front view of the

shooting game machine.

As shown in FIGS. 1 to 3, the shooting game machine has a casing 10

comprised of a portion forming a gaming plane and a projecting back portion

projecting upward behind the game-surface forming portion. This shooting game

machine is constructed as a dual-player machine by providing two token

discharge units 20 as shooting devices for causing game mediums such as tokens

to [[fly]] be propelled at the left and right sides of the front side of the casing 10

and providing two target units 30 at the left and right sides of the projecting back

portion. Two dispensers 40 are provided side by side at the front surface of the

casing 10 for the respective game players. The respective token discharge units

20, the target units 30 and the dispensers 40 have identical constructions. Inside

the casing 10 are provided a token collecting unit 50 as shown in FIG. 2 and an

unillustrated a control unit (not shown) for controlling the progress of a shooting

game. As shown in FIG. 2, this game machine is so designed that the target units

30 are reminded reminiscent of windows of a building and the token discharge

units 20 are reminded reminiscent of fire engines.

The casing 10 has a ceiling portion 11 and window portions 12 at its left

and right sides in which transparent resin plates are fitted so as to surround the

gaming plane. A revolving light 13 as an electric decoration and loudspeakers 14

for acoustics are provided on the ceiling portion and at the left and right sides of

the front wall surface, respectively.

Each token discharge unit 20 is comprised of a token inserting device 21,

a discharging device 22 and a discharge maneuvering device 23. Hereinafter, the

5   token discharge unit 20 is described with reference to a detailed construction

diagram of FIG. 4.

The token discharge unit 20 is such that the token inserting device 21 is

provided atop the discharging device 22, and the discharge maneuvering device

23 is provided behind, i.e., at the side of the discharging device 22 toward the

10   game player. The token inserting device 21 is comprised of a slot 211 having

such a width as to enable insertion of a vertically oriented token, and a token

guiding portion 210 formed with a passage 212 communicating with the slot 211,

extending downward and defined by narrowly spaced opposing wall surfaces for

guiding the inserted token [[down]] downwardly. A genuineness detector 213 for

15   detecting the genuineness of the inserted token is built in an intermediate position

of the passage 212 of the token guiding portion 210, and a mechanism (not

shown) for discharging things objects other than tokens, to be used to a return

opening 214, is provided. A token detector 215 is provided in the passage 212 for

detecting the presence or absence of the token having passed the genuineness

20   detector 213, i.e., after insertion of the proper token.

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The discharging device 22 includes a pair of frames 221 standing on the

left and right sides (spaced apart in the depth direction of FIG. 4) of a base board

220 mounted on the gaming plane, a shaft 222 rotatably mounted about a

horizontal axis at upper parts of the frames 221, a frame 223 rotatable together

5   with the shaft 222, and upper and lower discharging mechanisms 224, 225

supported on the frame 223.

The discharging mechanism 224 includes a rotary solenoid 224a rotatable

about a horizontal axis extending transverse direction, and a rod-shaped trigger

(hammer) 224c is so secured near the bottom end of a rotary shaft 224b of the

10   rotary solenoid 224a so as to be rotatable together therewith. The hammer 224c is

biased in a direction toward the shooting position (counterclockwise direction in

FIG. 4; reverse rotating direction) by a spring 224d mounted between the bottom

end thereof and the frame 221. A specified shooting force is obtained by biasing

forces of the rotary solenoid 224a and the spring 224d. A hitting member 224e

15   having a specified length and formed by an elastic member, such as a coil spring,

is mounted on the upper end of the hammer 224c in such a manner as to

circumferentially project when viewed from the rotary shaft 224b. The rotary

solenoid 224a can be driven in forward and reverse rotating directions by

supplying a drive voltage and a rotating direction signal. Thus, the hammer 224c

20   can be actively driven both at the time of shooting (reverse rotation) and at the

time of returning to a pulled position (forward rotation) and, particularly, a hitting

force at the time of shooting by means of the hitting member 224e is secured. It

should be noted that the spring 224d is adapted to stably hold the hammer 224c in

the shooting position during suspension, during which power application to the

5   rotary solenoid 224a is suspended.

A detection piece 224f ~~project~~ projects in a vicinity of the bottom end of

the hammer 224c, and the frame 221 is mounted with a hammer sensor 224g, such

as, for example, a photointerrupter, for detecting this detection piece 224f when

the hammer 224c is returned to pulled position by the rotary solenoid 224a. The

10   hammer sensor 224g may be a ~~noncontacting~~ non-contacting type sensor, such as,

for example, an optical sensor and a magnetic sensor, or may be a mechanical

contacting type sensor.

A discharging pad 225f is provided with a gunbarrel 225a having an

elongated tubular body oriented forward, toward the target unit 30. Inner walls of

15   the gunbarrel 225a are so dimensioned as to define an inner space having a width

and a height slightly larger than the width and diameter of the vertically oriented

token, so that the shot token smoothly passes through the inside of the gunbarrel

225a and flies out at a specified speed, i.e., at a speed sufficient to at least reach

the uppermost part of the target unit 30 from a muzzle 225b at the leading end.

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A base end 225c of the gunbarrel 225a defines a shooting position. A

notch 225d extending in longitudinal direction and having a specified width and a

specified length is formed in the base end 225c. The notch 225d is so shaped as

to permit entrance of the hitting member 224e provided at the leading end of the

5   hammer 224c. The base end 225c of the gunbarrel 225a is bent upward, and is

continuous with a token standby portion 225e having a communication path

communicating an upper end opening of the base end 225c, and a token passage

in the gunbarrel 225a is continuous with the base end 225c.

A token locker [[225]] 225f for enabling projection of a restricting pin for

10   preventing the token set at the shooting position from rolling toward the muzzle

225b at a [[taken]] token passage surface is provided at a side wall immediately

downstream from the shooting position where the base end 225c of the gunbarrel

225a is located. The token locker 225f is formed of an electromagnetic solenoid

or the like which restricts a rolling movement of the token set at the shooting

15   position by causing the restricting pin to appear in the token passage and retracted

into the side wall upon receipt of a shooting instruction, to be described later.

The frame 223 is prevented from rotating any further in the returning

direction at the pulled position by an unillustrated a stopper (not shown), and the

gunbarrel 225a is set such that the muzzle 225b and the base end 225c are located

20   substantially on a horizontal plane, or the former is slightly higher than the latter.

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However, if the token locker 225f is ~~adopted~~ <u>suitably adapted</u>, the former may be located slightly lower than the latter.

A token hopper 225g is provided in a position facing an upper end opening of the token standby portion 225e. Further, a projecting piece 226 stands

5   at the left or right side behind (right side in FIG. 4) the base board 220, i.e., at a position not interfering with the discharging mechanism 224 and the discharging pad 225. An intermediate guiding portion [[27]] <u>227</u> for transferring tokens from the token guiding portion 210 to the token hopper 225g is mounted above the projecting piece 226. The intermediate guiding portion 227 is arranged such that

10   its receiving opening faces a downstream end opening of the token guiding portion 210, and a path for the passage of the token is so formed as to communicate with the receiving opening, and its bottom end is open. The upper surface of the token hopper 225a is entirely open and the side surfaces thereof are surrounded by walls for preventing the token from falling. Further, an opening

15   225h having such a size as to permit the passage of the token is formed at the rear end of the bottom surface of the token hopper 225g. A mounting angle of the token hopper 225g is set in advance such that its rear end is constantly located lower than its front end within a rotatable range of a shaft 222. Thus, the token from the intermediate guiding portion 227 never fails to fall onto the token

20   standby portion 225e through the opening 225 at the rear end. By forming the

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token hopper 225g [[long]] in this way, the token from the token guiding portion

210 can be always received by the opening in the upper surface of the token

hopper 225g, even if a relative position of the token hopper 225g and the token

guiding portion 210 is displaced by changing a discharging angle of the

5   discharging pad 225, as described later.

The discharge maneuvering device 23 (as also identified and shown in

FIG. 1) is provided before (right side in FIG. 4) the discharging device 22, and a

lid-shaped casing 231, substantially in the form of a rectangular parallelepiped, is

mounted on the base board 230 mounted on the gaming plane. A shaft 232

10   rotatable about a horizontal axis is mounted between the left and right walls of the

casing 231. One of the left and right sides of the shaft 232 is extended, and an

operation lever 233 extending radially of the axis of the shaft 232 is mounted at

the leading end of the extended portion of the shaft 232. The operation lever 233

has a specified length suited to be rotated by the game player, and a grip 233a is

15   mounted at the top thereof.

A large-diameter member 234 radially extending from the axis of the shaft

232 is mounted in a specified position of the shaft 232 with respect to its

longitudinal direction in such a manner as to be rotatable with the shaft 232. At a

position of the shaft 222 of the discharging device 22 in alignment with the

20   large-diameter member 234 in transverse direction (depth direction in FIG. 4), a

large-diameter member 222a is so mounted as to be rotatable with the shaft 222.

A coupling bar 235 is mounted between a position of the large-diameter member

234 displaced from the shaft 232 and located in the extending direction of the

operation lever 233 and a specified position of the large-diameter member 222a

5   displaced from the shaft 222. The coupling bar 235 is so mounted as to be

rotatable with respect to the large-diameter members 234 and 222a. A

relationship of the mount positions of the coupling bar 235 and the large-diameter

members 234 and 222a is such that the discharging pad 225 is returned to the

pulled position with the operation lever 233 inclined by, for example, 15 (toward

10   the game player, so that the game player's hand gripping the grip 233a does not

contact a front glass or the like. If there is no such particular problem, the

discharging pad 225 may be returned to the pulled position when the operation

lever 233 is located at a right above position directly above.

Accordingly, if the game player rotates the operation lever 233 to pull it

15   toward himself, the gunbarrel 225a is faced upward according to the rotation

amount of the operation lever 233.

A radially extending detection piece 236 is secured to the shaft 232 so as

to be rotatable therewith, and a discharging direction sensor 237 comprised of two

photointerrupters 237a, 237b for detecting a discharging angle is provided on a

20   trajectory of rotation of the detection piece 236. Four rotation positions with

respect to the detection pieces 236 can be detected as shown in FIG. 5. A

discharge button 238 is provided on the upper surface of the casing 231.

FIG. 5A shows a state where the outputs of the photointerrupters 237a,

237b are both HIGH and the discharging pad 225 is aimed at a target of the target

5   unit 30 at the bottommost one of four stages to be described later. FIG. 5B shows

a state where the output of the photointerrupter 237a is LOW, the output of the

~~photointerrupters~~ photointerrupter 237b is HIGH, and the discharging pad 225 is

aimed at a target of the target unit 30 at the second lowest stage. FIG. 5C shows a

state where the outputs of the photointerrupters 237a, 237b are both LOW, and

10   the discharging pad 225 is aimed at a target of the target unit 30 at the second

highest stage. FIG. 5D shows a state where the output of the photointerrupter

237a is HIGH, the output of the ~~photointerrupters~~ photointerrupter 237b is LOW,

and the discharging pad 225 is aimed at a target of the target unit 30 at the

uppermost stage. The detected state of the discharging direction sensor 237 and

15   the target actually hit by the token are set in advance to coincide based on, for

example, a speed of the rotary solenoid during reverse rotation and other factors.

The target units 30 are constructed for the dual-player game machine as

described above, and two target units 30 having an identical construction are

arranged side by side in transverse direction. The target units 30 are provided on

20   a board 300 standing at a position between the token discharge device 20 and the

game board surface. [[And]] In addition, four targets 31, 32, 33 and 34 are

vertically arranged at specified intervals from the above. The constructions of the

respective targets are described later. In the following description, these targets

31, 32, 33 and 34 are merely referred to as targets, except those at the specific

5   stages which are mentioned.

The dispenser 40 pays tickets Ch, such as, for example, credits, out to a

dispensing opening 41 and is internally provided with a dispensing mechanism.

A known construction [[is]] may be adapted for the dispensing mechanism. For

example, a multitude of perforated credits connected in series and rolled up is

10   mounted inside, and the credits are successively dispensed from the leading end

from the dispensing opening 41 while being held between a pair of dispense

rollers rotation-controlled by a drive motor and having their length detected one

by one. An other known construction may also be adopted. As described later,

when a plurality of tickets Ch are paid out, they may be done so by counting a

15   necessary number using a dispensing counter. Alternatively, a total length of the

plurality of tickets Ch to be paid out may be calculated in advance and a control

may be executed to dispense the tickets corresponding to the calculated total

length at once.

The length of one ticket Ch can be detected by measuring a rotation

20   amount of the dispense rollers using a rotary encoder, and the number of tickets

can be counted by detecting marks or the like affixed to specified positions of the

tickets by means of an optical sensor. Further, <u>a situation in which</u> [[that]] the

tickets have been run out can be known by setting an initial value when the rolled

tickets are mounted and <u>by</u> decreasing the initial value one by one every time the

5   ticket is dispensed, or by detecting the absence of the ticket by means of an

optical sensor provided at a dispensing end.

The token collecting mechanism 50 is provided with a collecting box 51

for collecting the tokens <u>after</u> having directly fallen onto the game board surface

and having hit the targets, and a collecting guide 52 comprised of a hopper and a

10   collecting path, the hopper extending from the token discharge devices 20 to the

rear (back) side of the board 300 of the target units 30, having an area extending

in forward and backward directions and transverse direction to cover the entire

game board surface, and being sloped downward toward the front below the game

board surface.

15   FIG. 6 is a side view showing a structure of a target, and FIGS. 7A, 7B,

and 7C are a front view, a side view, and a perspective view<u>, respectively,</u>

showing the construction of a display unit and a presentation display unit.

As shown in FIGS. 1 and 3, two vertically elongated openings 301 are

formed side by side in <u>the</u> transverse direction in the board 300, and baffle plates

20   311, 321, 331, 341, 351 having a U-shaped cross section are vertically arranged at

specified intervals from above on the front surface of the board 300. Since the

targets 31 to 34 are basically identically shaped, the target 31 is representatively

described below. Further, as shown in FIG. 3, a picture simulating a helicopter is

drawn at the top of the board 300, and a jackpot score display unit 35 provided

5   with three numerical value display units formed of 7-segment LEDs is provided

in this picture.

The target 31 is formed between the baffle plates 311 and 321. The baffle

plate 311 has an upright front portion spaced apart from the opening 301 at least

by the diameter of the token and covering the opening 301. A transparent contact

10   plate 312 extends obliquely downward to the back from the bottom end of the

upright front portion. An angle of inclination of the contact plate 312 is set such

that the discharge token securely falls toward the opening 301 after hitting the

contact plate 312. A mounting cover 312 is mounted on the board 300 at a

position of the opening 301 right behind the target 31. A display unit shown in

15   [[FIGs.]] FIGS. 7A - 7C is mounted on this mounting cover 313. The mounting

cover 313 is mounted such that a specified wide clearance width is defined

between an upper part thereof and the rear surface of the baffle plate 311, and a

specified narrow clearance is defined between a bottom part thereof and the rear

surface of the board 300. The contact plate 312 is mounted by fitting the upper

20   and bottom parts thereof into these two clearances. For example, a sponge 314 as

a cushioning member is mounted in the upper clearance, whereas the lower

clearance is left as it is. An impact force given by the hit token is absorbed and

alleviated by such a semi fixed supporting construction.

      A duct 315 having an end corresponding to the width of the opening 301

5   and adapted to collect the hit tokens is provided at a position below the contact

plate 312 and concealed by the baffle plate 321 located [[right]] directly below.

The duct 315 has an opening 315a formed in the upper surface of its leading end

so as to securely collect the falling tokens. The duct 315 is sloped downward

from its leading end to its downstream end, so that the collected token can be

10   guided to the downward side by the action of gravity, caused to fall onto the

collecting guide 52 through a downstream side opening 315b, and finally

collected into the collecting box 51.

      An impact sensor device 316 is mounted at a specified position of a wall

surface[[:]] of the duct (an upper surface in this embodiment), of the duct between

15   its leading end and its downstream end. The impact sensor device 316 is

constructed such that a sensor 316c is mounted on a substrate 316b provided on

the wall of the duct 315 via a spacer 316a. The sensor 316c is an impact detecting

device formed by, [[e.g.]] for example, a piezoelectric device, and is adapted to

detect an impact when the token having hit the contact plate 312 falls onto the

20   duct 315. The impact sensor device 316 is constructed as above in order to avoid

an erroneous detection of an impact by the token having hit the baffle plate

311[[,]] or 312, or the board 300, i.e., having missed the target. In order to

prevent such an erroneous detection, the baffle plate 321 and the duct 315 are

mounted on the board 300 and the like using vibration-proof nuts. An impact

5   caused only by the token having fallen onto the duct 315 can be securely detected

by providing a filtering circuit for extracting only a natural frequency of the

mounted duct 315 by causing only detection signals from the sensor 316 having

such a frequency component to pass.

The display unit 317 is secured to the mounting cover 313 by screws, and

10   a first substrate 317a and a second substrate 317b are arranged one over the other

via a spacer 317c. The first substrate 317a functions as a flame presenting display

unit and includes, for example, a multitude of red LEDs 317R as right point light

sources. In this embodiment, two blue LEDs 317B as blue point light sources are

also mounted in transversely symmetrical positions. In this embodiment, the red

15   LEDs 317R are dispersedly arranged to present a flame, and the blue LEDs 317B

are turned on to notify a jackpot. A resin plate 317d is formed of an acrylic plate

which is provided above the second substrate 317b while being spaced apart

therefrom by a specified distance, and formed with a rectangular notch at a lower

part of its middle portion. Preferably, a resin plate having a light diffusing

20   function is adopted. The light diffusing function may be given by surface

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processing or applying an opacifying agent or by adopting a plate member in

which an opacifying agent is mixed.

A two-digit display unit 317e in which two numerical value display units

formed of 7-segment LEDs are horizontally provided side by side is located in a

5   position substantially in the center (slightly displaced toward the bottom end in

this embodiment) of the target 31 while being mounted on the second substrate

317b and fitted into the notch of the resin plate 317d. The number of the digits of

the display unit 317e is determined in relation to scores to be set. Three digits (or

one digit) may be provided if score of three digits (or one digit) are adopted. FIG.

10   7A shows an example in which "JP" standing for jackpot, and meaning a special

high score, is displayed.

FIG. 8 is a block construction diagram of this shooting game machine.

This shooting game machine is provided with a main control unit 60 having a

built-in CPU, and the operations of the respective elements are controlled by

15   connecting the token discharge devices 20, the target units 30, the dispensers 40,

the loudspeakers 14, the revolving light 13, the jackpot score display unit 35 and a

maintenance button 61 with the main control unit 60. The maintenance button 61

is operated to give an instruction to temporarily suspend a dispensing processing

to secure a time for maintenance in the case that an operation abnormality occurs

20   in the dispensers 40 or the like. The maintenance button 61 is provided in a

specified position of an outer surface of the dispenser 40 lest the game player

should inadvertently operate it.

FIG. 9 is a construction diagram showing a summary of processings

performed by the main control unit. These processings are performed in temporal

5   decomposition.

A first and a second game ~~processors~~ processor 601, 602 carry out a flow

chart shown in FIG. 10[[:]]. i.e.. confirmation of the insertion of the token,

confirmation of an operated state of a discharge button 238, processing to the

token discharge device 20 upon discharge of the token (flow chart shown in FIG.

10   11), hit judgment, etc. A jackpot appearing position/time determining processor

603 carries out a flow chart shown in FIG. 12 and determines the target where the

jackpot will appear and appearing times at the respective targets. A first and a

second target ~~processors~~ processor 604, 605 carry out a flow chart shown in

FIGS. 13 and 14, i.e.. making [[makes]] displays in the display unit 317 and the

15   presentation display unit (317c, 317R, 317B) of each target, ~~determines~~

determining the scores for the respective targets and ~~performs~~ performing a hit

judgment. A first and a second ticket dispensing ~~processors~~ processor 606, 607

carry out a flow chart shown in FIG. 15[[:]]. i.e.. ticket dispensing processing and

maintenance of the dispensers 40.

A first and a second sound ~~processors~~ processor carry out an acoustic

processing. A jackpot score display processor 610 displays a numerical value in

the score display unit 35. An electric decoration controller 611 turns the

revolving light 13 on and off and blinks it. The operations performed by the

5   respective processors are described below.

FIG. 10 is a flow chat showing a procedure of "Game Processing". First,

a sound output processing for a main background music (BGM) and a title name

are made [[is]] and applied to the loudspeakers 14 (Step ST1). Then, the insertion

of the token is judged based on a detection signal from the token insertion sensor

10   215 (Step ST3) and it is ~~waited~~ paused on standby for a specified time, [[e.g.]] for

example, 5 min., until the token is inserted (Step ST5) if the token is judged not to

have been inserted. This routine returns to Step ST1 if 5 min. lapse without

detecting the insertion of the token.

On the other hand, it is discriminated based on a state signal from the

15   discharging direction sensor 237 whether the discharge button has been turned on

(Step ST7) and whether the token discharge device 20 (GUN) has been rotated

(Step ST9) during 5 min. during which the insertion of the token is detected. If

the discrimination result of either Step ST7 or ST9 is affirmative, a sound guide

urging the game player to insert a coin, i.e., the token, is made via the

20   loudspeakers 14 (Step ST11).

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If the insertion of the token is detected in Step ST3, a sound effect

~~presenting it~~ representative thereof is given via the loudspeakers 14 (Step ST13)

and it is then discriminated whether the discharging button 238 has been turned

on (Step ST15). Unless the discharging button 238 has been turned on, this

5   routine waits on standby for a predetermined time, [[e.g.]] for example, 10 sec.

(Step St17). Unless the discharging button 238 is turned on during this

predetermined time, a sound guide urging the game player to discharge is given

via the loudspeakers 14 (Step ST19).

On the other hand, a subroutine "Token Discharging Processing" is

10   executed (Step ST21) and a discharging sound effect is given via the loudspeakers

14 (Step ST23). Subsequently, a hit judgment is made based on a detection signal

from the impact sensor device 316 (Step ST25). If the hit judgment is

affirmative, a hit sound effect is given via the loudspeakers 14 or the revolving

light 13 is turned on (when the jackpot is hit), a score displayed in the display unit

15   corresponding to the hit target (for example, display unit 317 in the case of the

target 31) is added to a current score, and an instruction is given to pay out tickets

corresponding to a current accumulated score (Step ST27).

FIG. 11 is a flow chart showing a procedure of a subroutine "Token

Discharge Processing". When the discharging button 238 is turned on, the rotary

20   solenoid 224a is rotated in forward direction (Step ST31) and it is discriminated

whether the hammer 224c has been returned to the pulled position based on the

presence or absence of an ON-signal from the hammer sensor 224g (Step ST33).

If there is no ON-signal from the hammer sensor 224g, this subroutine waits on

standby for a predetermined time, [[e.g.]] for example, 1 sec. (Step ST 35). If the

5   hammer sensor 224g is not turned on even after the lapse of 1 sec., the driving of

the rotary solenoid 224a is stopped (Step ST37) and an error notification is given

by, for example, making corresponding displays in the jackpot score display unit

35 and the display unit 317e and a corresponding sound guide via the

loudspeakers 14 (Step ST39).

10   On the other hand, if the hammer sensor 224g is turned on, the rotary

solenoid 224a is driven in a reverse direction (Step ST41) and the pin of the token

locker 225f is retracted (Step ST43), thereby performing a token discharging

operation. Subsequently, after the hammer 224c is caused to wait on standby at

the shooting position by maintaining a power application to the rotary solenoid

15   224a for a predetermined time, [[e.g.]] for example, 0.2 sec. (Step ST45), the

power application is stopped (Step ST47). If the power application to the rotary

solenoid 224a is stopped, the hammer 224c is held at the shooting position by the

biasing force of the spring 221.

After waiting on standby for a predetermined time, [[e.g.]] for example,

20   0.5 sec. (Step ST49), the pin of the token locker [[224f]] 225f is caused to project

into the discharge path in order to engage a token inserted next at the shooting

position (Step ST51).

FIG. 12 is a flow chart showing a procedure of a subroutine "Jackpot

Appearing Position/Time Determining Processing". First, an appearing position

5   of the jackpot is determined. The jackpot is randomly determined at any of a total

of 8 targets of the first and second target units 30 (Step ST61). It is then

discriminated based on the state signal from the discharging direction sensor 237

whether the target where the jackpot has appeared is at a position aimed by the

gun 20 (Step ST63). If this target is aimed at, it is then discriminated whether the

10   gun 20 is in a token dischargeable state where it can discharge the inserted token

(Step ST65). Here, if the gun 20 is in the token dischargeable state, an appearing

time of the jackpot is determined (Step ST67). This time is variably set between

0.5 sec. to 0.8 sec. at random by, [[e.g.]] for example, 0.1 sec.. On the other hand,

if the gun 20 is not in the token dischargeable state, the jackpot appearing time is

15   variably set between 0.7 sec. to 1.2 sec. at random by, [[e.g.]] for example, 0.1

sec. (Step ST69). A degree of difficulty to hit the jackpot is adjusted, i.e.,

increased by setting the appearing time shorter when the gun 20 is aimed at the

jackpot-appearing target and is in the token dischargeable state than otherwise.

Subsequently, the determined time is monitored by a built-in timer for

20   measuring the jackpot appearing time at the target (Step ST71). Upon the lapse of

the determined appearing time, this subroutine returns to Step S61 to repeat

similar operations.

FIGS. 13 and 14 are a flow chart showing a subroutine "Target

Processing". This processing is repeated for the targets 31 to 34 of the two target

5   units 30, i.e., 8 targets in this embodiment. Here, operations are described

assuming that the first target processing is applied to the target 31 after the power

application to the game machine.

First, the built-in timer for measuring the appearing time is set at an initial

value, i.e., 0 sec. (Step ST81). It is then discriminated whether the target 31 is a

10   jackpot-appearing target (Step ST83). This subroutine proceeds to Step ST97

unless the target 31 is a jackpot-appearing target, whereas "JP" representing the

jackpot is displayed in the display unit 317e comprised of two 7-segment LEDs

(Step ST85) and the blue LEDs 317B are controllably blinked (Step ST87).

Subsequently, it is discriminated whether the impact sensor 316c is

15   corresponding to the target 31 (where the jackpot is set) has been turned on (Step

ST89). If this sensor 316c is on, an animation display representing the hit of the

jackpot is made using the red LEDs 317R and the blue LEDs 317B (Step ST91).

Specifically, from a state where a flame is expressed by turning some of the red

[[LED]] LEDs 317R as shown in FIG. 7A (or the flame is more realistically

20   presented by turning different red LEDs 317R on [[in]] over time ~~direction~~)

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before the hit judgment, the red LEDs 317R are successively turned on in outward

direction to represent scattering of the flame and finally all the red LED 317R are

turned off. In this way, a fire extinguishing activity is presented when the jackpot

is hit. This subroutine returns to Step ST81 after such an animation display is

5   made for 3 sec. (Step ST93).

Conversely, if the impact sensor 316c is not on, it means that the token has

missed the target 31 and accordingly this subroutine returns to Step ST83 after

making a flame display which is a usual animation display for the jackpot (Step

ST95).

10   On the other hand, if the target 31 is discriminated not to be a

jackpot-appearing target in Step ST83, it is discriminated whether the timer is set

at 0 sec. (Step ST97). Since this is the first processing, the timer is set at 0 sec.

Accordingly, it is discriminated whether the gun 20 is aimed at this target 31

(Step ST99) and whether the gun 20 is in the token dischargeable state (Step

15   ST101). If the gun 20 is in the token dischargeable state, any desired value

between 2 to 10 points is randomly determined as a score to be set for the target

31 (Step ST103). On the other hand, if the gun 20 is not aimed at the target 31 or

not in the token dischargeable state, any desired value between 2 to 20 points is

randomly determined as a score to be set for the target 31 (Step ST105). In this

20   way, a degree of difficulty is adjusted, i.e., increased by setting the score at a

smaller value when the gun 20 is aimed at a usual target which is not the

jackpot-appearing target and is in the token dischargeable state than otherwise.

Subsequently, the timer is randomly set at a period between 1.5 to 3.0 sec.

by, [[e.g.]] for example, 0.1 sec. (Step ST107), and the determined score is

5   displayed in the display unit 317e comprised of the 7-segment LEDs (Step

ST109).

Subsequently, it is discriminated whether the impact sensor 316c

corresponding to the target 31 has been turned on (Step ST111). If this sensor

316c is on, the animation display representing the normal hit of the target is made

10   using the red LEDs 317R (Step ST113). This subroutine returns to Step ST81

after this animation display is made for 3 sec. (Step ST115). At this time, the

timer is set at 0 sec. again, and a new score and a new appearing time are set. On

the other hand, if the impact sensor 316c is not on, this subroutine returns to Step

ST83 after an animation display representing that the token has missed the target,

15   [[e.g.]] for example, the aforementioned flame presentation display, is made (Step

ST117).

If the subroutine returns to Step ST83, it is discriminated in view of the

operation in Step ST61 whether the target is a jackpot-appearing target. This

subroutine proceeds to Step ST97 unless the target 31 is a jackpot-appearing

20   target. If the appearing time set by the previous appearing time determination has

not been counted down to 0 sec. yet (NO in Step ST97), this routine proceeds to

Step ST109 to keep displaying the score in the display unit 317e.

On the other hand, if the appearing time set by the previous appearing

time determination has been counted down to 0 sec. (YES in Step ST97), this

5   routine proceeds to Step ST99 to perform a processing to determine a new score

and a new appearing time (Steps ST99 to ST107).

FIG. 15 is a flow chart showing a procedure of a subroutine "Ticket

Dispensing Processing". First, it is judged whether there is any unissued ticket

(Step ST121). This subroutine waits on standby if there is no such ticket, whereas

10   the dispenser 40 is activated (Step ST123) if there is. Subsequently, it is

discriminated whether there is any response signal sent upon the start of the

operation of the dispenser 40 (Step ST125). If there is a response, a count value

of a ticket counter is incremented only by one after paying one ticket [[CH]] Ch

out on the assumption that the dispenser 40 is properly operating (Step ST127). It

15   is then discriminated whether the count value has reached a score stored in the

storage, i.e., there is any unissued ticket (Step ST129). The operation of the

dispenser 40 is stopped if there is no such ticket, whereas this routine returns to

ST125 to execute a processing to pay the unissued ticket out after confirming the

proper operation of the dispenser 40 if there is such a ticket.

On the other hand, if there is no response in Step ST125, this subroutine

waits on standby for 2 sec. (Step ST133), and proceeds to Step ST127 if there is a

response during a standby period. If there is no response even after the lapse of 2

sec., the operation of the dispenser 40 is stopped (Step ST135) upon judging that

5   the tickets have run out and a sound guide urging replenishment of tickets is given

via the loudspeakers 14 (Step ST137). Here, a game machine administrator

replenishes the dispenser 40 with tickets and pushes a ticket replenishment

completion button after completion of this operation. The dispenser 40 waits on

standby until this ticket replenishment completion button is turned on and starts

10   operating after returning to Step ST123 upon the receipt of an ON-signal.

The present invention may be embodied as follows.

(1)   The armed target may be changed and adjusted by adjusting a

hitting power instead of adjusting an angle of discharging pad as in the foregoing

embodiment. Alternatively, both adjustments may be adopted. The adjustment of

15   the hitting power may be made, for example, by detecting a drive current applied

to the rotary solenoid 224a through detection of a pushed amount of the

discharging button 238 by means of a sensor and setting the hitting power to

correspond to the detected level.

(2)   The game mediums are not limited to tokens, and may be small

20   balls or the like, or dice-shaped mediums. Further, besides being of the type

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hitting the game medium by the hammer simulating a gun, the discharge device

may be of the type throwing the game medium (e.g. dart), releasing the game

medium, or utilizing an approach run and gravity (inclination of an approach-run

path is variable). Further, instead of using such instruments, the game player

5   himself may throw or kick the game medium. The construction of the target units

30 is not limited to the one of the foregoing embodiment. A suitable construction

can be adopted for the target units 30 depending to the kind and quality of the

game to which the invention is applied.

(3)   Not <u>necessarily</u> both the score appearing time and the jackpot

10   appearing may be variably determined, but at least one of them may be fixed.

Further, they may be randomly determined without including the aiming direction

of the hammer as a determination condition.

(4)   The scores set for the respective targets and the method for

designating the jackpot may be randomly determined without including the

15   aiming direction of the hammer 20 as a determination condition. Alternatively,

they may be determined based on a specific rule. Further, instead of varying

scores, a plurality of specific scores may be adopted or the fixed scores may be

set for the respective targets. A special highest score set as a jackpot value may

be randomly determined from a plurality of values prepared in advance or may be

20   fixed.

(5) The jackpot-appearing target may be changed to the target in vicinity

of the right previous one, [[e.g.]] for example, cyclically changed to the target one

stage above (or below) in the foregoing embodiment.

Further, the hit of the token at the jackpot may be adopted as a condition

5   in determining the next jackpot-appearing target. For example, if a first token hits

the target (or if one of the first few tokens hits the target) after the jackpot is set,

the next jackpot-appearing target may be set at an easily aimed position, i.e., at

the target right adjacent to the previous one. Further, if a first token hits the

jackpot-appearing target in one target unit (or if one of the first few tokens hits

10   this target) during a dual-player game, the next jackpot may appear at the target of

the same target unit.

(6)   The presentation for the hit of the target corresponding to the

jackpot is not limited the one in which the flame at this target is extinguished, but

the flames of all the targets may be extinguished. Further, a plurality of sizes of

15   flames may be prepared in advance, and a presentation display may be made

according to the determined score. For instance, as the score gets higher, a data

on the larger flame may be read for the presentation display.

(7)   The presentation display is not limited to the fire extinguishing

activity as in the foregoing embodiment, but various presentations may be

20   adopted in relation to kinds of games to which the invention is applied.

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(8)   The contents to be displayed in the display unit of the target are

not limited to the scores (points). In the case of rankable contents (values),

various values may be expressed such as "Great Hit", "Hit", "Minor Hit" and

"Miss". What is paid out is not limited to tickets, but may be tokens.

5   (9)   In FIG. 6, an opening between the baffle plates 311, 321 defining

the target 31 has the same shape as the other targets and this opening functions as

a token receptacle. Since the token is ~~discharge~~ discharged in an obliquely

upward direction from the token discharge device 20, the token does not

horizontally enter any of the targets 31 to 34, and an entering angle to the opening

10   is larger or smaller depending on the height position of each target, i.e., the

entering angle becomes smaller at the targets at the upper stages while becoming

larger at the targets at the lower stages. Accordingly, by setting the

jackpot-appearing targets at the upper stages in higher probability, a degree of

difficulty can be adjusted. Conversely, spacing between the baffle plates may be

15   widened toward the above so that the entering angle to every target is equal.

(10)   Although the two shooting game machines are incorporated into

one casing in the foregoing embodiment, they may be separate. The main control

unit may execute a dispensing administration while adjusting some or all of the

aforementioned degrees of difficulty in view of the number of inserted coins, the

number of paid-out tickets and a difference in value between them lest the

dispensing should be excessive.

As described above, according to the present invention, a shooting game

machine comprises a target unit including a plurality of targets, a shooting unit

5   provided at a position facing the target unit and operable by a game player to

cause a game medium to fly while selectively aiming at any of the plurality of

targets, display units provided in correspondence with the respective targets for

displaying values corresponding to the targets by codes, value setting means for

setting the values to be displayed on the display units, jackpot setting means for

10   setting a jackpot value on one of the display units selectively changed [[in]] over

time direction, hit detecting means for detecting the hit of the game medium at the

target, a dispenser for paying out a material corresponding to the value displayed

on the display unit corresponding to the hit target when the game medium hits one

target. With this construction, the game player can cause the game medium to fly

15   by operating the discharging unit while aiming at a specific one of the plurality of

targets arranged in front. When the aimed target or an other target is hit by the

game medium, the value, [[e.g.]] for example, a specified score, displayed in

correspondence with the hit target can be obtained, and the corresponding valued

material is paid out from the dispenser. When the target corresponding to the

20   jackpot is hit, the jackpot value, [[e.g.]] for example, a special high score [[an]]

can be obtained, thereby making the game player's interest in a game vary only to

a small degree and stably urging the game player to have a desire to shoot better.

The aforementioned shooting game machine may further comprise

presentation display units provided in correspondence with the display units for

5   making a presentation display of a flame, and a presentation display control

means for causing each presentation display unit to make the presentation display

of the flame and causing it to stop the presentation display when the game

medium hits the target corresponding to this presentation display unit. With this

construction, such a fire extinguishing activity as to extinguish the flame can be

10   presented when the token hits the target. Such a presentation is particularly

effective if the casing of the game machine is designed to simulate a fire engine.

It may be possible that each display unit displays a score set by the value

setting means and displays the jackpot value set by the jackpot setting means by a

code representing a special high score. With this construction, the construction of

15   the display unit can be effectively utilized since the code representing the jackpot

can be displayed on a score display section.

The aforementioned shooting game machine may further comprise a

jackpot score display unit for displaying the special high score as the jackpot

value. With this construction, a desire to shoot can be roused since the special

high score as the jackpot value can be ~~visually~~ recognizably displayed <u>visually</u> on

the jackpot score display unit.

It may be preferable that the value setting means randomly displays a

plurality of scores prepared in advance on the display units corresponding to the

5   respective targets. With this construction, gaming nature can be improved since

different scores are set for the same target.

It may also be possible that the value setting means randomly displays

display times of the scores to be displayed on the display units corresponding to

the respective targets. With this construction, a degree of difficulty can be

10   adjusted merely by time.

The aforementioned shooting game machine may further comprise

detecting means for detecting an aiming direction by the shooting unit, wherein

the jackpot setting means determines the target where the special high score is to

be set depending on a detection content of the detecting means. With this

15   construction, a degree of difficulty to hit the jackpot can be made adjustable since

the jackpot-appearing target is set in view of the aiming direction of the

discharging unit.

In the aforementioned shooting game machine, it may be possible to set

<u>design parameters</u> as follows. The ~~: the~~ plurality of targets are arrayed in vertical

20   directions, game medium receptacles having openings of the same shapes as the

36

targets are provided before the respective targets, the shooting unit discharges the

game medium in an angle direction which is inclined upward than horizontal

direction, and the value setting means sets a high probability of setting relatively

higher scores for the upper targets. With this construction, a degree of difficulty

5   can be substantially set since the entering angle of the game medium into the

opening of the game medium receptacle differs according to the height position of

the opening from the discharging unit.

Another form of the present invention relates to a shooting game system,

which comprises a plurality of shooting game machines according to any one of

10   the above forms in which a plurality of targets are arranged in vertical directions

and incorporated into one casing, wherein the jackpot setting means sets the

special high score at any one of all targets of the plurality of shooting game

machines.

In the aforementioned shooting game system, ~~wherein~~ the shooting game

15   system may include two shooting game machines. With these constructions, a

game can be developed in a more complicated manner due to, [[e.g.]] <u>for</u>

<u>example,</u> an unknown factor about in which game machine the jackpot-appearing

target is to be set, thereby further rousing a desire to shoot.

In the aforementioned shooting game system, when the target where the

20   special high score is set is hit on a specific condition, the jackpot setting means

may be configured to newly set the special high score at any one of the targets of

the same target unit other than the target where the special high score was

previously set. With this construction, the game player can cause the jackpot to be

consecutively set in his game machine by hitting the target corresponding to the

5   jackpot on the specific condition. Therefore, a game system having a more

improved gaming nature can be provided.

        The present invention is based on Japanese patent application serial no.

2000-290997 filed in Japanese Patent Office on September 25, 2000, the contents

of which are hereby incorporated by reference.

10   As this invention may be embodied in several forms without departing

from the spirit of essential characteristics thereof, the present embodiment is

therefore illustrative and not restrictive, since the scope of the invention is defined

by the appended claims rather than by the description preceding them, and all

changes that fall within metes and bounds of the claims, or equivalence of such

15   metes and bounds, are therefore intended to embraced by the claims.

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ABSTRACT OF THE DISCLOSURE

A shooting game machine ~~is provided with~~ includes a target unit [[30]] in

which targets are arranged at four stages. A, a token discharge device 20

5   ~~provided at a position facing~~ faces the target unit [[30]] and is operable by a game

player to discharge a token while selectively aiming at any of the plurality of

targets. Display, ~~display~~ units [[317e]] are provided in correspondence with the

respective targets for displaying scores corresponding to the targets, and a target

processor ~~604 for setting~~ sets the scores to be displayed on the display units. A

10   ~~317e, a~~ jackpot appearing position/time determining processor ~~603 for setting~~ sets

a special high score on one of the display units [[317e]] which is selectively

changed [[in]] over time. ~~direction, impact~~ Impact sensor units ~~316 for detecting~~

~~the hit of~~ detect when the token [[at]] hits the corresponding target, and a

dispenser ~~40 for, when the token hits one of the targets, paying~~ pays tickets out to

15   the game player corresponding to the score on the display unit [[317e]]

corresponding to the hit target ~~out to the game player~~.

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